

ACADEMIC MEDICINE

Journal of the Association of American Medical Colleges

Uncomposed, edited manuscript published online ahead of print.

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DOI: 10.1097/ACM.0000000000004382

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Academic Medicine

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Novel, Low-Cost Intervention to Promote Women's Advancement in Global Health Research

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Acknowledgments: The authors acknowledge the following collaborators who have contributed wise guidance on the content of the program and have generously given their time to each scholar in the program: Geetha Bansal, Robert Bollinger, Helene Brazier-Mitouart, Judith Currier, Daniel Fitzgerald, Monica Gandhi, Glenda Gray, Amita Gupta, Natalie Jagsaran, Justin Kingery, Myung Hee Lee, Yuka Manabe, Margaret McNairy, Philippa Musoke, Kevin Pain, Grace John Stewart, Radhika Sundararajan, Sandrine Tunezerwe, Patrick Walsh, and Kalen Wheeler.

Funding/Support: The authors deeply appreciate support from Jessica and Natan Bibliowicz and from Weill Cornell Medicine for the Female Global Scholars Program. These funders had no input into the design of the program and were not involved in this article.

Other disclosures: None reported.

Ethical approval: Reported as not applicable.

Abstract

Problem

Women comprise 7 out of every 10 health care workers globally yet are significantly underrepresented in leadership positions. The COVID-19 pandemic has exacerbated underlying gender disparities, placing additional burdens on many female global health professionals.

Approach

The authors describe the development of a novel, low-cost pilot program—the Female Global Scholars Program (Weill Cornell Medicine)—established in April 2018 to promote the advancement of female global health research professionals and prepare them for leadership positions in this field. Using a logic model, the program was informed by discussion with peers at scientific symposia, qualitative research examining the barriers women experience in global health, discussions with experts in the fields of global health and medical education, and a literature review of other initiatives focused on fostering female advancement. The program provides opportunities to learn leadership skills and peer mentoring to female junior investigators in global health research over the course of 2 years through attendance of a symposium and skill-building workshop, skill-building webinars, and the building of a peer mentor group.

Outcomes

The inaugural cohort of the Female Global Scholars Program (April 2018–March 2020) included 10 female global health researchers from 6 countries (Haiti, India, Kenya, Tanzania, Uganda, and the United States) across 3 continents. By the end of year 1, 6 participants received academic promotions. Additionally, the inaugural 10 scholars collectively presented at 11 international conferences and submitted 22 abstracts and 19 manuscripts.

Next Steps

The authors hope to provide additional support and guidance to scholars as they become leaders of their own versions of this program at their home sites and plan to expand the faculty group to further lessen the time burden, while enabling the program to provide additional research mentorship to scholars.

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Problem

Women account for 7 out of every 10 health care workers globally yet are significantly underrepresented in leadership positions.¹ Female leaders are more likely to support women's and children's health initiatives, which has led to tangible improvements in health outcomes like reductions in neonatal mortality.² Moreover, health care provided by female physicians is associated with decreased hospitalizations and lower mortality rates,³ and female health care workers are more likely to be able to access certain vulnerable populations among whom male health care workers may be less welcome.⁴ Despite such positive impacts, women in global health continue to face significant gender disparity in professional advancement.

The COVID-19 pandemic has exacerbated these underlying gender disparities, placing additional burdens on many female global health professionals. We describe the development of a novel, low-cost pilot program to promote the advancement of female global health research professionals and prepare them for leadership positions in this field across multiple countries.

Approach

The Female Global Scholars Program—a novel, low-cost pilot program—was established in April 2018 as a part of Weill Cornell Medicine's larger Women in Global Health Research Initiative (WGHI; New York, New York), with the purpose of promoting the advancement of women in global health research and preparing them for leadership positions in this field. We used a logic model, a method of visually connecting desired components (or inputs) of a program to the anticipated program outcomes,⁵ to synthesize the inputs for the Female Global Scholars Program and to inform the development of the program. The inputs, and thus the development of the program, were informed by discussion with peers at scientific symposia, prior qualitative

research examining the barriers women experience in global health, a literature review of other initiatives focused on fostering female advancement, and discussions with experts in the fields of global health and medical education, as described below.

Concept development

The WGHI was founded in 2014 to promote the advancement of women and prepare them for positions of leadership in the field of global health research. It was designed in response to the lack of senior female role models who could provide unique gender-specific career mentorship in global health.⁶ The WGHI is comprised of 3 arms: research to address the barriers women face to advancement; scientific symposia to highlight women's research and foster collaborations; and, most recently, the Female Global Scholars Program (Figure 1). From 2015 to 2019, the WGHI has hosted 4 scientific symposia attended by over 400 women from 5 continents, 30% of whom are from low- and middle-income countries. At each symposium, women from many different countries and a variety of career stages have described similar gender-based barriers to career advancement, including work-life balance and sexual harassment.

Evidence for intervention

In our prior study characterizing barriers women experience in global health, participants described significant levels of gender-based discrimination, sexual harassment, and assault.⁷ They suggested that peer mentorship, leadership training, institutional acknowledgement, and accountability for perpetrators of sexual harassment and assault could mitigate gender-based barriers.

Based on discussions with experts in the fields of global health and medical education, a primary objective of the program was training to strengthen essential, albeit often-overlooked, skills that

are necessary for a successful research career and that are generally obtained informally. To this end, our intervention needed to be high-yield—that is, it needed to require minimal time investment but provide scholars with valuable skills to help them successfully advance in global health.

We also sought to include best practices, such as peer mentoring and networking, identified via a literature review of other initiatives focused on fostering female advancement.^{8–10}

Finally, through discussions with peers at scientific symposia as well as through our previous qualitative research and discussions with experts, we identified skills essential to pursuing a global health research career that we prioritized for inclusion in our intervention.

From this evidence, we found that a key component of successful programs, such as the Building Interdisciplinary Research Careers in Women’s Health and ADVANCE program, is the larger institutional buy-in demonstrated by the National Institutes of Health and the National Science Foundation, respectively.^{9,10} For our program to be successful, participants needed the backing of their individual institutions. This would demonstrate investment in the participants and ideally lead to broader policy changes to address gender inequity at the institutional level.

Development of a logic model for the Female Global Scholars Program

Logic models depict a road map for program implementation, convey why the program is needed, and what it will accomplish.⁵ Construction of our logic model was guided by discussions with peers and experts, our previous qualitative research, and a literature review (see above), which, in turn, guided the development of the Female Global Scholars Program. The program’s purpose is to promote the advancement of women in global health research and prepare them for leadership roles in this field. Program participants are female global health researchers at the

junior faculty level from Weill Cornell Medicine's international collaborators with existing support from their respective institutions and their primary scientific mentors.

Program inputs include faculty and staff time, travel support to facilitate in-person activities, and minimal funding (Figure 2). Program activities include educational activities and peer mentor groups. Program outputs are specific, direct quantitative measures in 2 categories: personal and institutional. Personal outputs include abstracts and manuscripts submitted, conference presentations, and academic advancement. Institutional outputs include the number of leadership trainings and peer mentor group meetings held and the amount of financial support provided to the program and its participants. Program outcomes include the retention of women in global health research and their advancement to leadership roles. Programs impacts are expected to be healthier populations and improved maternal and child health; these will be achieved over time through skill building and peer mentorship, expansion of peer mentor groups at affiliated sites, grant support of participants' research, participants' academic promotions, and normalization of institutional support for women in global health research at affiliated sites and other institutions in their countries.

Description of the Female Global Scholars Program

The Female Global Scholars Program is a 2-year program that was launched in April 2018 that provides opportunities to learn leadership skills and peer mentoring to female junior investigators in global health research. The application process includes a personal statement of career goals, description of an ongoing research project with the support of an existing scientific mentor, and a letter demonstrating institutional support of participation in the program. The purpose of the application process is to identify female researchers who are self-motivated to achieve and have

chosen a research-based career path. The components of the program by year are detailed in Table 1.

Participants begin the program as junior scholars with attendance at the WGHI symposium. Travel support is provided for each scholar to attend the symposium and a skill-building workshop (this workshop is 2 days in the first year and 1 day in the second year). The symposium is a 1-day event structured around 3 keynote speakers who are leaders in the field of global health, panel discussions on topics relevant to women researchers in global health, and oral research abstracts, many related to gendered health issues in global health. A major goal of the symposium is to provide time and opportunities for junior researchers to connect with senior researchers in global health, with specific time allotted for networking. The workshop provides the opportunity for scholars to meet in person and begin developing collaborations. At this workshop, each junior scholar is paired with a scholar in a similar geographic region or with a similar research background to facilitate informal peer mentorship within the scholar cohort. This also enables networking between scholars at different institutions. Following the symposium and workshop, scholars return to their home sites and communicate remotely via email, video calls, webinars, and social messaging.

While this hybrid in-person-virtual model is beneficial for in-person networking, the program can easily be adapted to an all-virtual model. This is indeed what we did in 2020 during the COVID-19 pandemic. We found this transition to be seamless, as the program was already designed around virtual participation. Moreover, transitioning to an all-virtual program led to significant cost-reduction, as the major cost of the program is travel to the symposium. While this cost is generally manageable, it may prove to be a barrier to adapting this program to low-

resource settings. With this barrier removed, the program can easily be implemented at most institutions worldwide.

Monthly webinars in the first year of the program cover a set curriculum of 12 skill-building topics (see Table 1). Topics were chosen based on discussions with experts in global health and medical education and our own experience with what would be the most high-yield skills. There are numerous topics that are not covered that would be beneficial in future iterations of this program, including sessions on intersectionality and negotiation. Following the webinars, each scholar is asked to work on developing the featured skill and to share and provide feedback to each other within their scholar pairs. The first 10 minutes of each webinar is reserved for one scholar to share a work-related problem, a personal issue, a potential research proposal, or other topic with the rest of the cohort and receive feedback.

The second year of the program centers around building a peer mentor group. Thus, senior scholars are given a budget of \$500 (U.S. dollars) for the year to use at their respective home sites to design and implement a peer mentor group. The purpose of this is to strengthen peer mentorship capacity at each scholar's site, while simultaneously providing leadership experience to the scholars. Senior scholars have skill-building webinars quarterly instead of monthly to allow them to devote more time to their on-site peer groups. Peer groups are variable in size and content, depending on what each scholar perceives as the needs of her site. Examples of peer mentor group activities include biostatistical lectures, networking symposia, and career advice workshops.

Outcomes

The inaugural cohort of the Female Global Scholars Program (April 2018–March 2020) included 10 female global health researchers from 6 countries (Haiti, India, Kenya, Tanzania, Uganda, and

the United States) across 3 continents. By the end of their first year, 6 of these scholars received academic promotions. Of these, 2 completed PhD degrees and 2 completed MD degrees. While the direct impacts of our program on these scholars' success is yet to be determined, this high rate of success of our scholars with respect to academic promotions and higher degrees achieved is encouraging. Additionally, the inaugural 10 scholars collectively presented at 11 international conferences and submitted 22 abstracts and 19 manuscripts.

An in-depth qualitative evaluation following the first cohort's completion of the 2-year program will explore the program's short-term and intermediate outcomes. This evaluation will include individual interviews with scholars as well as their self-identified primary mentors at their home sites to enable a fuller understanding of the impacts of the program on each scholar. Ideally, this will provide insight into the more difficult to quantify, yet equally important, outcomes, such as improved confidence or self-esteem, initiative, and self-efficacy. It will also explore the program's effect on scholars' home sites, including the funds designated for peer mentorship. The funds provided by Weill Cornell Medicine to initiate the Female Global Scholars Program demonstrated strong institutional support for this program and for women in global health research in general.

Next Steps

The Female Global Scholars Program leverages its participants' experiences to achieve strong female peer mentorship and provides opportunities to learn skills essential for leadership across multiple countries. The program itself is low-cost, with the largest cost being travel expenses for scholars to attend the symposium and in-person workshop in New York. This was not an inconsequential sum, so institutional buy-in was necessary. As travel is currently not advisable due to COVID-19, the program was converted from a hybrid in-person-virtual model to an all-

virtual model in 2020, thus reducing its total cost. Consequently, the COVID-19 travel restrictions have broadened the program's accessibility and impact, as potential scholars who had been unable to travel, often due to family responsibilities, are now able to participate fully in the program. Additionally, all of the webinars are recorded so that if scholars miss a session, they can revisit it at their convenience.

The program is easily adaptable to a variety of settings. Our reason we decided to include peer mentor groups led by scholars at their home sites during the second year was to begin expanding elements of the program to our affiliated sites. As additional scholars advance through the program, this will increase the number of scholars and peer mentors groups at each site, thus growing capacity for further adaptation of this program to each unique institution. We hope to provide additional support and guidance to scholars as they become leaders of their own versions of this program at their home sites.

A large and essential component of this program is the time commitment of faculty to serve as mentors and webinar speakers. As time is a precious commodity, we sought to limit this by including a large group of faculty from our institution and affiliated sites so that no single faculty member would be overwhelmed. We plan to expand this group of faculty to further lessen the time burden, while enabling the program to provide additional research mentorship to scholars.

The Female Global Scholars Program is a novel, low-cost intervention to combat many of the barriers faced by female researchers in global health. Our hope is that it will be adapted in many diverse locations, increase the number of women leaders in global health, and ultimately change the culture in which they work so as to improve the health of women, children, and entire communities.

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Figure 1

Structure of the Women in Global Health Research Initiative (WGHI), which includes the Female Global Scholar Program—a novel, low-cost pilot program to promote the advancement of women in global health research and prepare them for leadership roles in this field, Weill Cornell Medicine, established in April 2018. The WGHI was founded at Weill Cornell Medicine in 2014 and is comprised of 3 arms: the Female Global Scholars Program, scientific symposia to highlight women’s research and foster collaborations, and research to address the barriers women face to advancement.



Figure 2

Logic model for the Female Global Scholars Program—a novel, low-cost pilot program to promote the advancement of women in global health research and prepare them for leadership roles in this field, Weill Cornell Medicine, established in April 2018. Construction of this logic model was guided by discussions with peers and experts, previous qualitative research, and a literature review, which, in turn, guided the development of the program, laying out how each aspect of the program (inputs, activities, outputs, and outcomes) would interact with each other and yield the desired impacts.

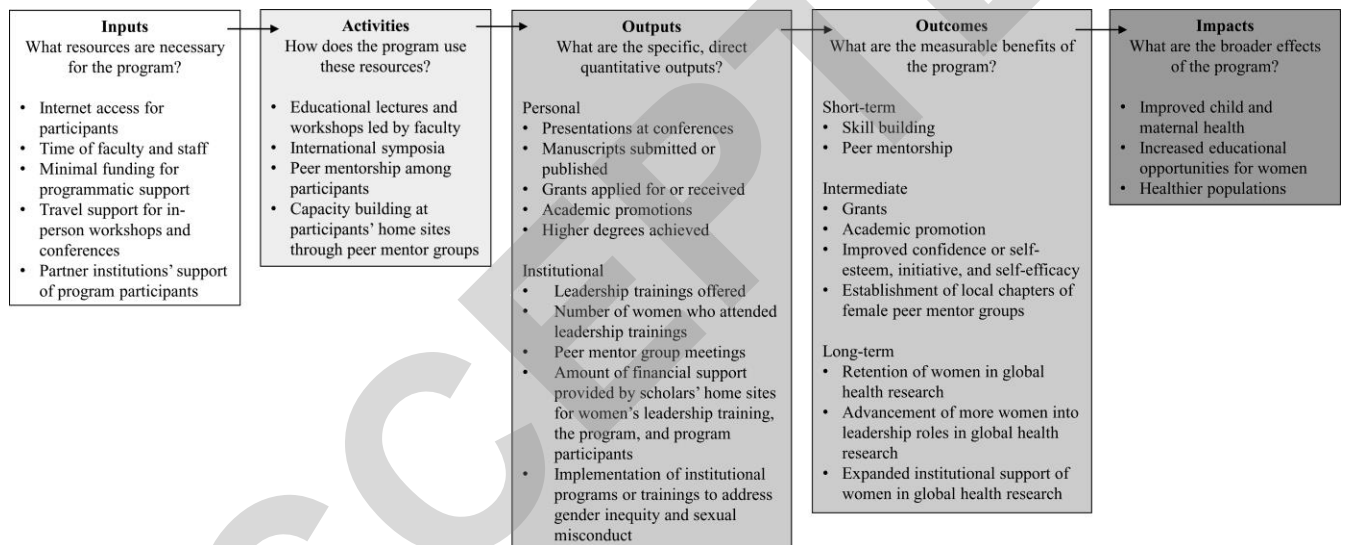


Table 1

Components of the Female Global Scholars Program—A Novel, Low-Cost Pilot Program to Promote the Advancement of Women in Global Health Research and Prepare Them for Leadership Roles in This Field, Weill Cornell Medicine, Established in April 2018

Timeline	First-year (junior) scholars	Second-year (senior) scholars
April	<ul style="list-style-type: none"> • WGHI symposium^a • Intensive 2-day workshop^b that covers developing a research question, building a research team, peer mentorship, gender discrimination and harassment, and setting short- and long-term career goals • In-person networking opportunities at the symposium and workshop 	<ul style="list-style-type: none"> • WGHI symposium^a • Intensive 1-day workshop^b that covers delivering an elevator pitch, gender discrimination and harassment, and designing and implementing peer mentor groups • In-person networking opportunities at the symposium and workshop
May–March	<ul style="list-style-type: none"> • Monthly webinars^c on: <ul style="list-style-type: none"> ○ Writing a biosketch ○ Designing a concept sheet ○ Introduction to biostatistics and epidemiology ○ Data management ○ Writing a manuscript ○ Finding relevant grants ○ Finding target journals for publications ○ Authorship ○ Presentation skills ○ Bioethics ○ Maximizing the mentor-mentee relationship ○ Conflict resolution • Monthly assignments, shared with scholar pair • Frequent communication with and among scholars via email, video calls, and social messaging 	<ul style="list-style-type: none"> • Quarterly webinars^c on: <ul style="list-style-type: none"> ○ Conflict resolution ○ Peer mentorship ○ Bioethics ○ Team building • Intermittent, as-needed conference calls to discuss progress of peer mentor groups • Frequent communication with and among scholars via email, video calls, and social messaging

Abbreviation: WGHI, Women in Global Health Research Initiative.

^aThe WGHI symposium is a 1-day event structured around 3 keynote speakers who are leaders in the field of global health, panel discussions on topics relevant to women researchers in global health, and oral research abstracts, many related to the experience of women in global health. A major goal of the symposium is to provide time and opportunities for junior researchers to connect with senior researchers in global health, with specific time allotted for networking. Scholars are encouraged to submit abstracts for selection as oral abstract presenters.

^bThe intensive workshops are scheduled around the symposium so that scholars do not need to travel more than once a year for the program's in-person events.

^cThe webinars last 1 hour and are based on the topics listed. Scholars are then encouraged to practice the skill learned (e.g., writing a biosketch) and share with their scholar pair. The first 10 minutes of each webinar is reserved for one scholar to share a work-related problem, a personal issue, a potential research proposal, or other topic with the rest of the cohort and receive feedback.

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